

TABLE X. Tests required, aviation gasoline

PROPERTIES	B-1 TEST	B-2 TEST	B-3 TEST	C TEST
Appearance ¹	X	X	X	X
Particulate matter ²	X	X	X	
Color (Visual)	X	X	X	X
Density or API gravity	X	X	X	X
Distillation	X	X	X	
Copper strip corrosion	X	X	X	
Existent gum	X	X		
Reid vapor pressure	X	X		
Water reaction	X	X	X	
Lean mixture rating ³	X	X	X	
Rich mixture rating ³	X	X		
Lead content	X	X		
Potential gum		X		

TABLE X. NOTES:

- ¹ Obtain sample in a clear round one quart glass bottle, swirl the bottle vigorously so a vortex is formed. Visually check for sediment at the point of the vortex. If sediment is visible, an investigation is necessary in order to determine the source of the contaminant (a spot larger than 3 mm diameter indicates corrective action may be required to prevent the delivery of contaminated fuel).
- ² Perform only if visual sediment is present.
- ³ Perform only if Lead content was performed and failed the specification requirement. If the capability does not exist to perform this test at the terminal, a sample will be sent to the nearest Service laboratory that does have the capability. In the event operational necessity dictates issue of product before results are obtained from the Service laboratory, shipments may be made; however, when laboratory results indicate failure, notify DESC-BQ.

MIL-STD-3004A
w/Change 1

TABLE XI Tests required, lubrication oils ^{1,2}

PROPERTIES	B-1 TEST	C TEST
Appearance (to include visual sediment & water)	X	X
Emulsion test	X	
Gravity	X	X
Viscosity	X ³	
Flash point	X	
Foam test	X	
Water (by centrifuge)	X ³	X ⁴
Solid contaminants	X	

TABLE XI NOTES:

¹ For application of these tests see Table IX.

² B-2 tests are listed in Tables XVII-XX.

³ For MIL-PRF-17331 and MIL-PRF-9000 viscosity is not required unless the tank has been dormant for 3 months and water (by centrifuge) is only required if the oil fails appearance because of water contamination (cloudiness).

⁴ Only required if the oil fails appearance because of water contamination (cloudiness).

MIL-STD-3004A
w/Change 1

TABLE XII. Tests required, aviation turbine fuels

PROPERTIES	B-1 TEST	B-2 TEST	B-3 TEST	C TEST
Appearance ¹	X	X	X	X
Color (visual)	X	X	X	X
Density or API gravity	X	X	X	X
Particulate matter	X	X	X	
Distillation	X	X	X	
Copper strip corrosion	X	X	X	
Freezing point	X	X	X	
Existent gum	X	X	X	
Reid vapor pressure (JP-4 only)	X	X	X	
Flash point (except JP-4)	X	X	X	X
Water reaction	X	X	X	
Lead content (If contaminated with leaded fuels suspected)	X	X	X	
Fuel system icing inhibitor	X	X	X	
Filtration time (JP-4 & JP-8)	X	X	X	
Water separation index (JP-4 and JP-8) ^{2,3}	X	X	X	
Conductivity (JP-4 and JP-8) ⁴	X	X	X	
Thermal stability (B-1 requirement applies only to JPTS)	X	X		
Color (Saybolt)		X		
Acid number		X		
Water in Petroleum Products by Karl Fisher ⁵	X	X		

TABLE XII NOTES:

- ¹ Obtain sample in a clear round one quart glass bottle, swirl the bottle vigorously so a vortex is formed. Visually check for sediment at the point of the vortex. If sediment is visible, an investigation is necessary in order to determine the source of the contaminant (a spot larger than 3 mm diameter indicates corrective action may be required to prevent the delivery of contaminated fuel).
- ² If the capability does not exist to perform this test at the terminal, a sample will be sent to the nearest Service laboratory that does have the capability. In the event operational necessity dictates issue of product before results are obtained from the Service laboratory, shipments may be made, however, when laboratory results indicate failure, notify DESC-BQ.
- ³ Water separation index, modified, testing is not performed if the fuel contains conductivity additive.
- ⁴ If fuel contains conductivity additive, CU readings should be taken within two minutes of sampling.
- ⁵ This test is being used to determine if water in the fuel is the cause of Apple Jelly formations downstream of the Defense Fuel Supply Points (DFSPs). Test data will be kept at the DFSP and shall be included as a part of any report pertaining to Apple Jelly discovered downstream of the DFSP.

MIL-STD-3004A
w/Change 1

TABLE XIII. Support for Air Force One and supporting aircraft

CHARACTERISTIC LIMITS ¹	JP-5		Jet A		Jet A-1		JP-8	
	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
Gravity, API @ 60°F	36	48	37	51	37	51	37	51
Density at 15 °C (kg/m ³)	788	845	775	840	775	840	775	840
Weight: lbs/USG	6.6	7.0	6.5	7.0	6.5	7.0	6.5	7.0
Distillation (°C)								
10%		206		205		205		205
20%	RPT			RPT		RPT	RPT	
50%	RPT			RPT		RPT	RPT	
90%	RPT						RPT	
End Point		300		300		300		300
Freezing point, °C		-46		-40		-47		-47
Flash point, °C	60		38		38		38	
Sediment (mg/L) ²		0.5		0.5		0.5		0.5
Conductivity (pS/m) ²	RPT		RPT		RPT		50	700
Copper strip corrosion		1		1		1		1
Water reaction		1b		1b		1b		1b
Existent gum (mg/100 mL)		7.0		7.0		7.0		7.0
FSII, (% Vol.) ²	0.07	0.20					0.07	0.20
Water ³								

TABLE XIII. NOTES:

- ¹ Results cited in this table apply to samples taken downstream of final filtration, intra-Governmental receipt limits apply.
- ² The FSII, sediment, and conductivity limits above are Intra-Governmental Limits. All other physical property limits are specification limits.
- ³ Water: Fuel must be clear and free of water on visual examination. Check water content of fuel with AEL or Aqua-Glo water detector kit, if available. Sample will be taken downstream of filter separator. Water content maximum by the method is 10 ppm.

Point of Contact. Air Force One advance team personnel requiring support with fuel sampling and/or testing are to contact the cognizant Service Control Point for refueling on military installations and DESC Region for all other locations, to identify those offices and personnel who will participate.

Testing: If complete testing cannot be performed at a local base lab, or if insufficient time exists for the sample to be forwarded to an Air Force area laboratory, then local commercial testing will be performed. The cognizant DESC Region quality manager will be contacted to arrange for required testing. See paragraph 5.7.3 of this document for invoice and payment procedures associated with testing performed at contract and non-contract locations.

MIL-STD-3004A
w/Change 1

TABLE XIV. Tests required, automotive gasoline

PROPERTIES	B-1 TEST	B-2 TEST	B-3 TEST	C TEST
Appearance	X	X	X	X
Color	X	X	X	X
Water and Solids (Visual Check)	X	X	X	X
Density or API gravity	X	X	X	X
Distillation	X	X	X	
Reid vapor pressure	X	X		
Copper strip corrosion		X	X	
Existent gum		X	X ¹	
Knock rating (RON and MON)	X ²	X ²		
Oxidation stability		X		
Water tolerance ³	X	X	X	

TABLE XIV. NOTES:

- ¹ Unwashed gum, without solvent wash, shall not increase by more than 2 mg as compared to the original product. In the event of gum increase exceeding 2 mg, a Type A test, as defined in the legend, will be run.
- ² Perform only if Lead Content is performed and fails and/or contamination with another product is suspected. In the case of pipeline, this test shall be performed when considered necessary.
- ³ Gasohol only.

MIL-STD-3004A
w/Change 1

TABLE XV. Tests required, diesel fuels and kerosene

PROPERTIES	B-1 TEST	B-2 TEST	B-3 TEST	C TEST
Appearance ¹	X	X	X	X
Color	X	X	X	X
Density and API gravity	X	X	X	X
Distillation	X	X		
Flash point	X	X	X	X
Carbon residue ² (diesel fuel only)	X	X		
Cloud point		X		
Pour point		X		
Copper strip corrosion		X		
Cetane index		X ³		
Viscosity		X		
Water & sediment by centrifuge		X		
Particulate (A-A-52557 & F-76)	X	X		
Accelerated stability (F-76)		X		
Sulfur		X ^{4, 5}		

TABLE XV. NOTES:

- ¹ For NATO F-76, if the sample has no visible particulates, but is otherwise not clear and bright per ASTM D 4176, procedure 1, then the product must meet the requirements of ASTM D 2709, 0.05 percent volume of water and sediment, maximum. The fuel is acceptable for appearance if the water and sediment content is 0.05 percent volume or less. If the sample fails ASTM D 4176, procedure 1, because it contains visible sediment or particulate matter, but meets the requirement of 10 milligrams per liter, maximum, in accordance with ASTM D 5452 or ASTM D 6217, then the fuel shall be considered acceptable provided all other requirements are met.
- ² Only required if change in color and/or relative density occurs after procurement.
- ³ Cetane Index can only be run if no ignition improvers are present. Otherwise, Cetane number shall be given.
- ⁴ Kerosene. Grade No.-1K only, if intended for non-flue connected burner.
- ⁵ Test to be performed if equipment is available.

TABLE XVI. Tests required, burner fuel oils

PROPERTIES	B-1 TEST	B-2 TEST	B-3 TEST	C TEST
Flash point	X	X	X	X
BS&W ¹ (centrifuge)	X	X	X	X
Viscosity	X	X		
Ash		X		
Carbon Residue	X			
Sediment by extraction		X		
Pour point		X		

- ¹ Perform only if water is observed.